

Using Home Oxygen Safely – What Everyone Needs to Know *When a Private Health Problem Becomes a Public Safety Threat*



U.S. Fire
Administration



FEMA



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Everyone's
Fight™

U.S. Fire
Administration



FEMA



For more information on the U.S. Fire Administration, visit:

<http://www.usfa.fema.gov/>

Today's Presenters Are:

Michael Young

Deputy Chief of Operations
Plymouth Fire Department
Massachusetts



Jennifer Mieth

Public Information Officer
Department of Fire Services
Massachusetts



Jim Ford

Deputy Chief/ Fire Marshal
City of Scottsdale Fire Department
Arizona



**Using Home Oxygen Safely –
What Everyone Needs to Know
*When a Private Health Problem Becomes a
Public Safety Threat***



***Jennifer Mieth, Public Information Officer
Michael Young, Deputy Chief of Operations***



DEPARTMENT OF FIRE SERVICES Division of Fire Safety

Using Home Oxygen Safely – What Everyone Needs to Know *When a Private Health Problem Becomes a Public Safety Threat*

HOME OXYGEN SAFETY

What **EVERYONE** should know:



No one should smoke in your home – the fire danger is too great.



Keep at least 10 feet from heat sources: pilot lights, electric appliances, candles.



Avoid use of petroleum-based products: lip balms, lotions, oils, grease.



Ensure your home has working smoke alarms.

For information on how to quit smoking,
talk to your physician or visit/call:

www.trytostop.org

www.cancer.org

1-800-879-8678 (English)

www.lungusa.org

1-800-833-5256 (Español)

1-800-833-1477 (TDD)



Department of Fire Services
P.O. Box 1025 – State Road Stow, MA 01775
1-877-9NO-FIRE (1-877-966-3473)
www.mass.gov/dfs



Massachusetts Fire Problem*

- Since 1997, O2 has been involved in:
 - 34 fire deaths – average 2/year
 - 67 serious injuries
 - 7 firefighter injuries
 - 93 identifiable incidents
- 2013 to-date, 6 severe incidents involving O2 (all involved smoking)
- Physicians say tip of the ice berg.

** based on fire and burn reports received by the Fire Data and Public Education Unit*



"A day I will never forget."

"My phone rang and a firefighter informed me that one of the Winthrop Housing Authority buildings was on fire."



Comments from Alice Hayes,
Director of Winthrop Housing
Authority

A resident, on oxygen, decided she wanted a cigarette. She lit her cigarette, slid the mask over and BOOM, the mask area ignited, traveled through the hose to the machine---and exploded."



Winthrop: 3 Alarm Fire

Danger to firefighters:

- Multiple O2 cylinders in apartment.

Fortunately:

- Fire doors were closed - prevented spread of fire to attached building.

In the end:

- 16 units of elder housing lost in 1 building.
- 90 seniors evacuated.
- Over \$551k in fire, smoke & water damage.
- 1 year to rebuild with sprinklers.



Plymouth Senior Housing

- August 4, 2006, 11:45p.m.
- Victim on home O2 & smoking
- 1 FF injury (broken wrist); several treated for smoke inhalation
- \$500k in damages
- 15 people displaced
- No sprinklers
- Non-fatal – but look @ the destruction!



Plymouth Senior Housing

Room of Origin



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Division of Fire Safety

Plymouth Senior Housing

Room of Origin



Room of Origin



Room of Origin



O2 Cylinders

Room of Origin – O2 Tubing



Plymouth Senior Housing

Cigarettes



Plymouth Senior Housing

Cigarettes

O2 Tubing



What Home Oxygen Should Look Like...



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Division of Fire Safety

What Home Oxygen Should NOT Look Like...



Victim Not Always the Smoker

- Brockton, Jan. 22, 1997, 3-Decker.
- 83-year old man on 2nd floor on home O2 started the fire by smoking.
- 32-year old woman who lived on floor above was trapped by the fire.



Most Tragic Fire

- 8-year old daughter trapped by fire on floor above died.
- 56-year old smoker with lung disease on home O2.
- Dropped cigarette started fire which ruptured the O2 tank – fueling the fire.
- October 28, 2002 - South Boston



Home Oxygen

A Growing Phenomenon

- Booming elder population
- Shorter hospital stays
- Outpatient procedures and home health services
- Leads to LTOT
(long-term oxygen therapy)



Smoking Tough Addiction

- Hard for smokers to quit
- How they end up on LTOT
- Harder when smoking a life time
- Not impossible
- Effective strategies to help older adults quit



Public Safety Threat

- Many fire safety issues when bring O2 into the home
- Smoking on home O2 moves the behavior from being a personal health issue to a public safety issue.
- Now involves the community.



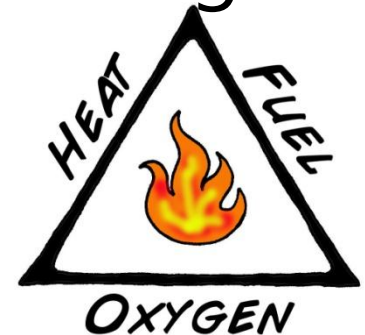
Live Long Enough to Quit

- We want:
 - smokers to live long enough to quit;
 - to protect other people living in the building from fire;
 - to protect firefighters;
 - to preserve housing;
 - to save pets;
 - save a lifetime of possessions.



O₂ & Fire Safety

- Oxygen itself does not burn
- Lowers the temperature at which things catch fire.
- Remember the fire triangle – heat, fuel, air.
- More air (O₂), makes the fire spread faster.
- ♦ Flame retardant materials can burn in an enriched oxygen atmosphere. (Firefighter safety)



Oxygen Soaks Into Things

- O₂ soaks into furniture, clothes, bedding, rugs, drapes.
- O₂ soaks into hair, beards.
- O₂ leaks into home's "atmosphere"
- Creates oxygen-enriched environment.
- Lowers temperature these things can first ignite.
- Spreads a fire more quickly.



Firefighter Safety Issue

- Firefighters often unaware of O2 presence.
- Fire less predictable when fueled by O2.
- Flashover can occur sooner.
- Cylinders can explode - danger of shrapnel.
- Protective gear at greater risk.



Firefighter Safety Issue (cont.)

- Fire retardant materials can burn in oxygen enriched environments.
- Nomex, a common fire retardant material used in firefighter's protective gear, burns vigorously in a 31% oxygen atmosphere!



State Fire Marshal Task Force

- State Fire Marshal convened task force
- Many disciplines involved
- What could each group bring to the table?
- What are the limitations of each group?
- Several recommendations:
 - Decals
 - Permit
 - Laws
 - Education



Medical Equipment Suppliers

- See this first-hand every day.
- By law, can't just stop delivering O2 when see evidence of smoking!
- Can't force residents to post no smoking O2 signs.
- HIPPA also restricts whom they can contact.
- Thousands of installations – many short-term.



Landlords

- Nobody wants to force sick, elderly people out onto the street.
- Leases usually do have clauses about posing a threat to other tenants.
- Effective leverage in getting patients to get help quitting smoking or face eviction.
- Eviction means little to terminally ill.
- Need to protect investment and tenants.



Elders At Risk

Elder Abuse

- A man's home is his castle.
- Goal is to keep elders in own homes as long as possible.
- When is an elder no longer able to care for themselves at home and an elder at risk?
- What if someone else is doing the smoking? Or smoking on O2?
- Mandated reporters must report elders at risk of self-neglect or abuse. (In MA)



How Do We Address the Problem?

- Multi-disciplinary approach
- No one agency owns the problem
- Fire, physicians, tobacco control, housing authority, medical gas supplier and elder service workers are all involved in these high risk situations
- First focus: baseline education of many target audiences.



Keep 10 Feet from Possible Ignition Sources

- Smoking materials – cigarettes, matches, lighters
- Small appliances – electric razors, hair dryers
- Pilot lights
- Heating sources – furnaces, space heaters, woodstoves, fireplaces
- Cooking
- Candles



Activities Without O2

- Don't wear home oxygen while cooking or near a wood stove, candle or any open flame.
- Don't wear home oxygen when using electric razor or electric hair dryer.



Avoid Oil Based Products

- Oils, grease & petroleum products can catch fire when exposed to high O₂ concentrations.
- Avoid oil-based lotions, lip balms, petroleum jelly, or aerosol sprays.



No Smoking in the Home

- By patient
- By family members
- By visitors
- By caregivers
- Signs should be posted.
- Encourage patient to get help quitting
- Don't enable.



Realistic Safety Tips

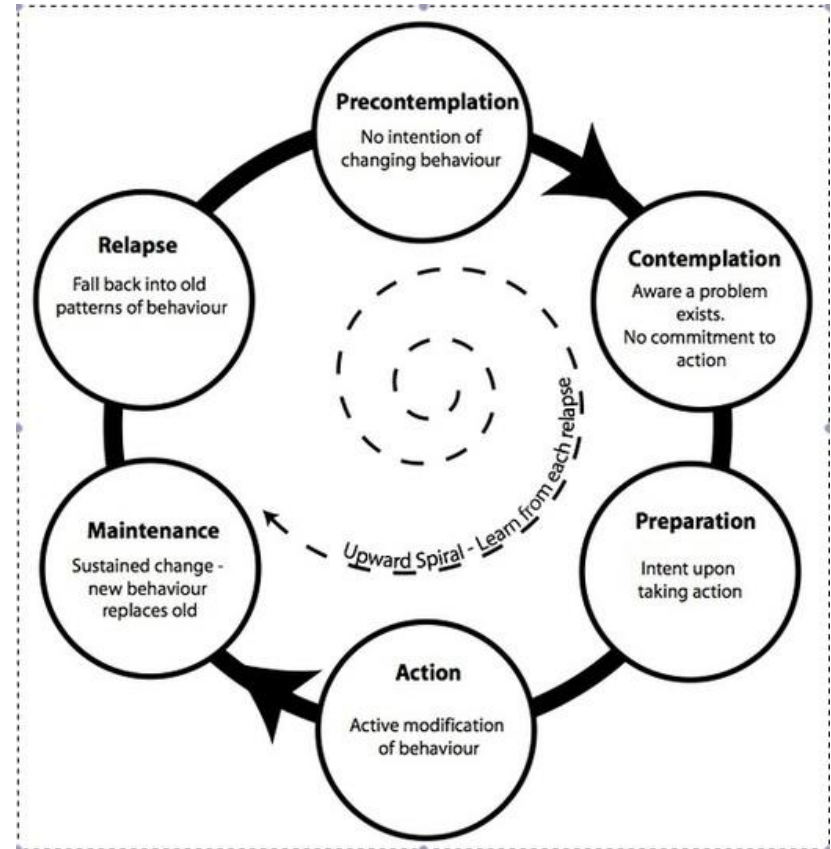
- Until people quit, they are going to smoke.
- How do you keep them alive till they do quit?
- Get them out of oxygen-enriched environment before lighting up.
- Shut-off, wait 10 minutes, and go outside to smoke.
- Allows O₂ to dissipate from hair and clothes



Tobacco Control

Use Stages of Change Model

- Encourage moving from pre-contemplation to contemplation or even preparation stage of change.
- Change where and how they smoke.
- Engage physician in conversation on quitting resources.



Campaign Components

- Printed pamphlet – English and Spanish
- Poster
- TV and Radio PSAs
- Firefighter Education Guidelines
- Newsletter articles
- Website – www.mass.gov/dfs then “Fire Safety Topics”, then “Home Oxygen Safety”



Need help to quit smoking?

There's FREE help for you!

The Massachusetts Smokers' Helpline at 1-800-Try-To-Stop (1-800-8-Déjalo) can help you quit. The helpline offers free telephone counseling, information and referral services for Massachusetts residents who want to stop smoking. It is open:

Mon.-Thurs. 9:00 AM - 7:00 PM

Fri. 9:00 AM - 5:00 PM

Call **1-800-879-8678 (English),**
1-800-833-5256 (Español),
1-800-833-1477 (TDD)

or online at **www.trytostop.org**

American Cancer Society

1-800-227-2345

www.cancer.org

American Lung Association

www.lungusa.org

Resources for
Massachusetts
elders:

1-800-AGE-INFO

(1-800-243-4636)

Executive Office
of Elder Affairs



REMEMBER

Oxygen + Smoking
is Dangerous

Oxygen + Fire
is Deadly!

"Smoking in homes where people use oxygen starts many fires each year that cause deaths and injuries to patients, family members, neighbors and pets.

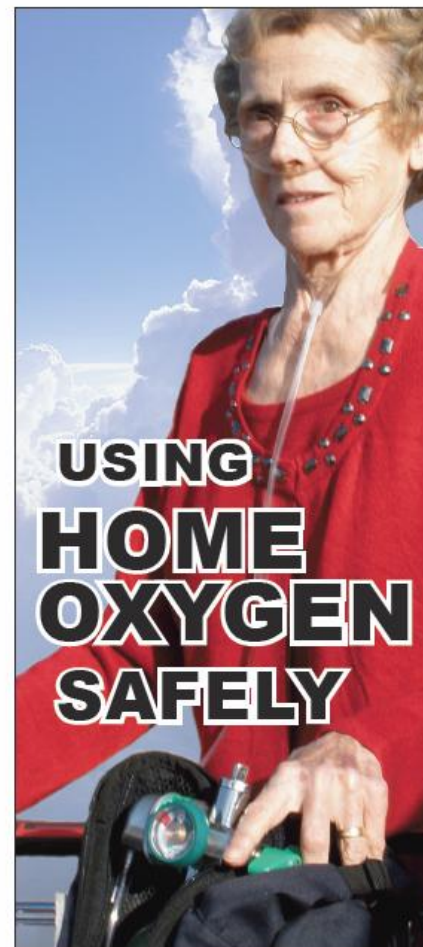
These fires force whole families and other building tenants out of their homes, destroy a lifetime's possessions and cause hundreds of thousands of dollars in property damage."

Stephen D. Coan
STATE FIRE MARSHAL



Commonwealth of Massachusetts
Department of Fire Services
P.O. Box 1025
Stow, Massachusetts 01775-1025
978-567-3380
www.mass.gov/dfs

DFS, May '09



USING HOME OXYGEN SAFELY

A RESOURCE GUIDE FOR
PATIENTS | FAMILIES
DOCTORS | NURSES
THERAPISTS
FIRST RESPONDERS

DEPARTMENT OF FIRE SERVICES
COMMONWEALTH OF MASSACHUSETTS

What you and your family should know:

Using home oxygen increases the risk of fires and burns.

When oxygen is used in the home, the amount of oxygen in the air, furniture, clothing and hair goes up, making it easier for a fire to start and spread.

When more oxygen is in the air, fires will burn hotter and faster.

When using home oxygen, learn how to handle it safely—especially if you smoke.

It is important to keep home oxygen and tubing 10 feet away from heat sources.

Common heat sources are:

- » Matches
- » Lighters
- » Cigarettes
- » Candles
- » Gas stoves
- » Appliances
- » Electric razors
- » Hair dryers
- » Heaters

Don't use flammable products such as:

- » Oils
- » Grease
- » Petroleum products
- » Oil based lip balms or lotions

For doctors, nurses and therapists:

Smoking while using home oxygen is not just a personal health hazard but a public safety danger. It puts everyone in the building at risk.

Encourage and help patients to quit smoking.

Help patients to understand the fire dangers of home oxygen use.

More information for health care providers on smoking cessation is available at www.trytostop.org.



Smoking Issues

No one should smoke in your home. The fire danger is too great.

You should not smoke.

Your family and friends should not smoke around you.

Quitting is the best thing you can do for your health and safety.

If you must smoke:

- Disconnect the oxygen.
- Wait 10 minutes.
- Go outside to smoke.

This gives the oxygen time to come off your hair and clothes into the open air.

This is not a safe way to smoke but is less risky than smoking indoors.

Home Fire Safety

Your family should help make sure your home has working smoke alarms.

You and your family should make and practice a home escape plan.

Lo que usted y su familia deben saber

El uso de oxígeno en el hogar aumenta el riesgo de incendios y quemaduras.

Esto se debe a que la cantidad de oxígeno que hay en el aire, los muebles, la ropa y el cabello aumenta, y esto facilita el comienzo y la propagación de los incendios.

Cuando hay más oxígeno en el aire, el fuego tiene una temperatura más alta y se propaga más rápidamente.

Si usa oxígeno en su casa, aprenda a manejarlo de forma segura, sobre todo si fuma.

El oxígeno y la tubería deben estar a 10 pies de distancia de las fuentes de calor. Fuentes de calor comunes:

- Fósforos
- Encendedores
- Cigarrillos
- Velas
- Estufas de gas
- Electrodomésticos
- Afeitadoras eléctricas
- Secadores de pelo
- Calentadores portátiles

No use productos inflamables como:

- Aceites
- Lubricantes
- Derivados del petróleo
- Bálsamos labiales o lociones a base de aceite

Para médicos, enfermeras y terapeutas

Fumar mientras se usa oxígeno en un hogar no sólo es un riesgo para la salud personal sino también un peligro para la seguridad pública. Pone en riesgo a todos los habitantes del edificio.

Anime y ayude a los pacientes a dejar de fumar.

Ayúdeles a entender los riesgos de incendio por el uso de oxígeno en el hogar.

Los profesionales de la salud pueden encontrar más información sobre ayuda para dejar de fumar en www.trytostop.org



Seguridad contra incendios en el hogar

Su familia debe ayudar a comprobar que su casa tiene detectores de humo que funcionan.

Usted y su familia deben crear y practicar un plan de escape de la casa.

Con respecto al fumar

Nadie debe fumar en su casa. El riesgo de incendio es demasiado alto.

Usted no debe fumar.

Su familia y sus amigos no deben fumar en su presencia.

Dejar de fumar es lo mejor que puede hacer por su salud y seguridad.

Si necesita fumar:

1. Desconecte el oxígeno.
2. Espere 10 minutos.
3. Salga a fumar al exterior.

Esto da tiempo para que el oxígeno que está en su pelo y ropa se diluya al aire libre.

Aunque esta no es una manera segura de fumar, es menos peligrosa que fumar dentro de la casa.



¿Necesita ayuda para dejar de fumar?

Hay centros de ayuda GRATUITA

La Línea de ayuda para fumadores (Smokers' Helpline) de Massachusetts 1-800-Try-To-Stop (1-800-8-Déjalo) puede ayudarle a dejar de fumar. Ofrece servicios telefónicos gratuitos de asesoramiento, información y referidos para residentes de Massachusetts que quieren dejar de fumar. Atiende:

1-800-879-8678 (inglés)

1-800-833-5256 (español)

1-800-833-1477 (TDD)

www.trytostop.org

De lunes a jueves, 9:00 am - 7:00 pm

Viernes, 9:00 am - 5:00 pm

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www.cancer.org

American Lung Association

www.lungusa.org

Recursos para Personas Mayores
de Massachusetts

1-800-Age-Info (1-800-243-4636)

Oficina Ejecutiva de Asuntos
de Personas Mayores

**Oxígeno + Fumar
es peligroso**

**Oxígeno + Fuego
¡es mortal!**

“Fumar en hogares donde hay personas que usan oxígeno inicia muchos incendios cada año que causan muertes y lesiones en pacientes, familiares, vecinos y mascotas.

Estos incendios obligan a familias enteras y a otros ocupantes del edificio a abandonar sus casas, destruyen pertenencias de toda la vida y causan daños a la propiedad por cientos de miles de dólares.”

Stephen D. Coan

Jefe de Bomberos de Massachusetts



DEPARTMENT OF FIRE SERVICES
Commonwealth of Massachusetts
978-567-3380 • www.mass.gov/dfs

Oct. 2012

Uso Seguro de Oxígeno en el Hogar



GUÍA DE RECURSOS PARA

Pacientes | Familias
Médicos | Enfermeras
Terapeutas
Socorristas

Department of Fire Services
Commonwealth of Massachusetts

HOME OXYGEN SAFETY

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www.mass.gov/dfs



DEPARTMENT OF FIRE SERVICES
Division of Fire Safety

Implementation

- Used Task Force members to spread the word
- Customizable newsletter articles
- Pamphlet distributed by VNAs, hospitals, medical equipment suppliers, senior centers, fire departments, etc.



Implementation 2

- Sent to physicians offices to start conversations w/ patients
- Poster also to housing authorities
- TV ad – 2 years running
- Radio ad 3 years running
- Presentations to groups: people who work with target audience or audience directly
- Fire department toolkit



What Senior Centers Can Do

- Help raise awareness of the issue
 - Encourage discussion
 - Distribute brochure (encourage take to Dr's office)
 - Post Poster
 - Ask the fire department to speak on the topic
 - Use the DFS provided presentation
 - Promote cessation services
 - Promote free telephone counseling for home-bound elders
 - Report elder abuse
 - Share with local housing authority folks



What Landlords Can Do

- Housing authorities develop policies that this is grounds for eviction.
- Progressive action – warnings, proof of cessation, etc. can stop action.
- Has proven effective.
- Install sprinklers!
- Use federal FIRE Act grant funds.
- Join New Smoke-Free Building Registry.



What the Fire Department Can Do

- Express concern 1st and foremost.
- Promote greater general awareness using educational tools. (Senior center talks)
- As part of multi-disciplinary approach, the FD can educate patient and family using *Education Guidelines* developed by DFS.
- Develop protocol on when to ask to educate and when to refer to another agency. (FD = mandated reporter)
- Encourage self-disclosure in E-911 forms



What Physicians Can Do

- Use educational materials to teach patients about fire risks of home oxygen
- Encourage patients to quit by offering resources
- Future: Possible relicensing training for Drs about the community risks of prescribing O2 to known smokers.



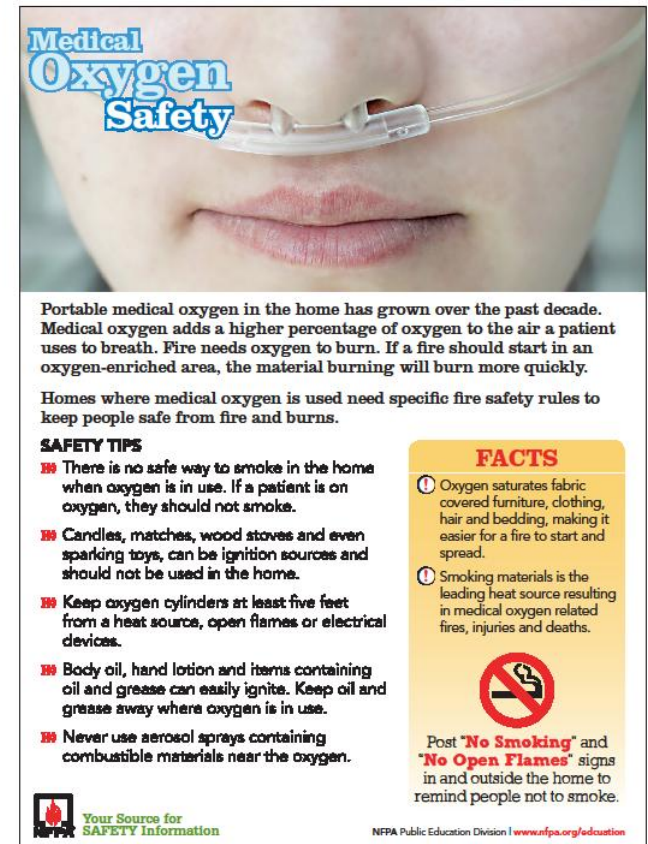
Resources

- U.S. Fire Administration
 - www.usfa.dhs.gov/
 - *Special Report on Fires Involving Medical Oxygen Equipment*, March 1999
www.usfa.dhs.gov/downloads/pdf/publications/tr-107.pdf
 - *Smoking and Home Fires campaign*
<http://www.usfa.dhs.gov/campaigns/smoking/materials/index.shtm>
 - *Fire Safety for People 50 Plus campaign*
www.usfa.fema.gov/50Plus



More Resources

- National Fire Protection Association
 - www.nfpa.org
 - *Fires & Burns Involving Home Medical Oxygen*, M. Ahrens, August 2008.
 - [Home Oxygen Safety flyer](#)
 - *Remembering When: A Fall & Fire Prevention Program for Older Adults*



DEPARTMENT OF FIRE SERVICES
Division of Fire Safety

Studies

- MMWR – April 23, 2008

Fatalities from Fires Resulting From Smoking during Oxygen Therapy – Maine, Massachusetts, New Hampshire and Oklahoma, 2000-2007, A. Pelletier, Maine Department of Public Health



For More Information

Contact:

Deputy Chief Michael Young
Plymouth (MA) Fire Department
(508) 830-4213
MYoung@townhall.plymouth.ma.us

Jennifer Mieth
Department of Fire Services
P.O. Box 1025
State Road
Stow, MA 01775
978-567-3380

www.mass.gov/dfs click on "Fire Safety Topics" and "Home Oxygen Safety"



DEPARTMENT OF FIRE SERVICES
Division of Fire Safety

The Scottsdale Experience



*Jim Ford, Deputy Chief/Fire Marshal
City of Scottsdale Fire Department*

SCOTTSDALE'S HISTORY OF PROACTIVE FIRE CODE DEVELOPMENT

- ❖ **Sept 3, 1974** **Ord #829 adopted 1973 UFC and all occupancies larger than 3 stories or 7500 sq ft (697 sq m) required to be protected with automatic spr systems**

- ❖ **April 19-21, 1982** **Scottsdale residential sprinkler tests (new homes)**

- ❖ **June 4, 1985** **Approval of Ord #1709 and 1982 UFC by the Scottsdale City Council. All new structures, including SF residential, required to be sprinklered.**

- ❖ **January 1, 1986** **Scottsdale Sprinkler Ord. in Effect**

- ❖ **Dec 4, 2012** **Adoption of 2012 IFC and Amendments**



Scottsdale Automatic Sprinkler Protection

January 1, 2013

<u>Type</u>	<u>Non-Spr</u>	<u>Sprinklered</u>	<u>Total</u>
Single Family	37,452	45,933	83,385
Multi-family	14,888	26,268	41,156
Total Units	52,340	72,201	124,541

% of Community Homes Protected

Single Family 55%

Multi-family 64%

City Total 58%



Home Fire Victims

- **Children under six and the elderly had highest death rates**
 - *People over 85 had the very highest*
- **Males had a death rate 43% higher than females**
 - *Their injury rate was also higher.*
- **Young adults and people over 85 faced the highest risk of fire injury**
- **One-third of home civilian fire injuries occurred when the victim was trying to control the fire**

Source: *Patterns of Home Fire Casualties by Age and Sex*,
by John R. Hall, Jr. - NFPA (National Fire Protection Association)



14000 N.90th PL - October 2001

Single Family Residence (tri-level)

Alarm Time: 0002 hrs

Total Loss \$50,000 - Potential \$250,000

Cause: Accidental

(smoking materials and oxygen fed)

**Resident Home - Reported to SFD by walking
neighbors as a Fire or Burglar Alarm**

Fatality: One (64 yom)

Total Sprinkler Heads Activated: (6)







14196

ADT











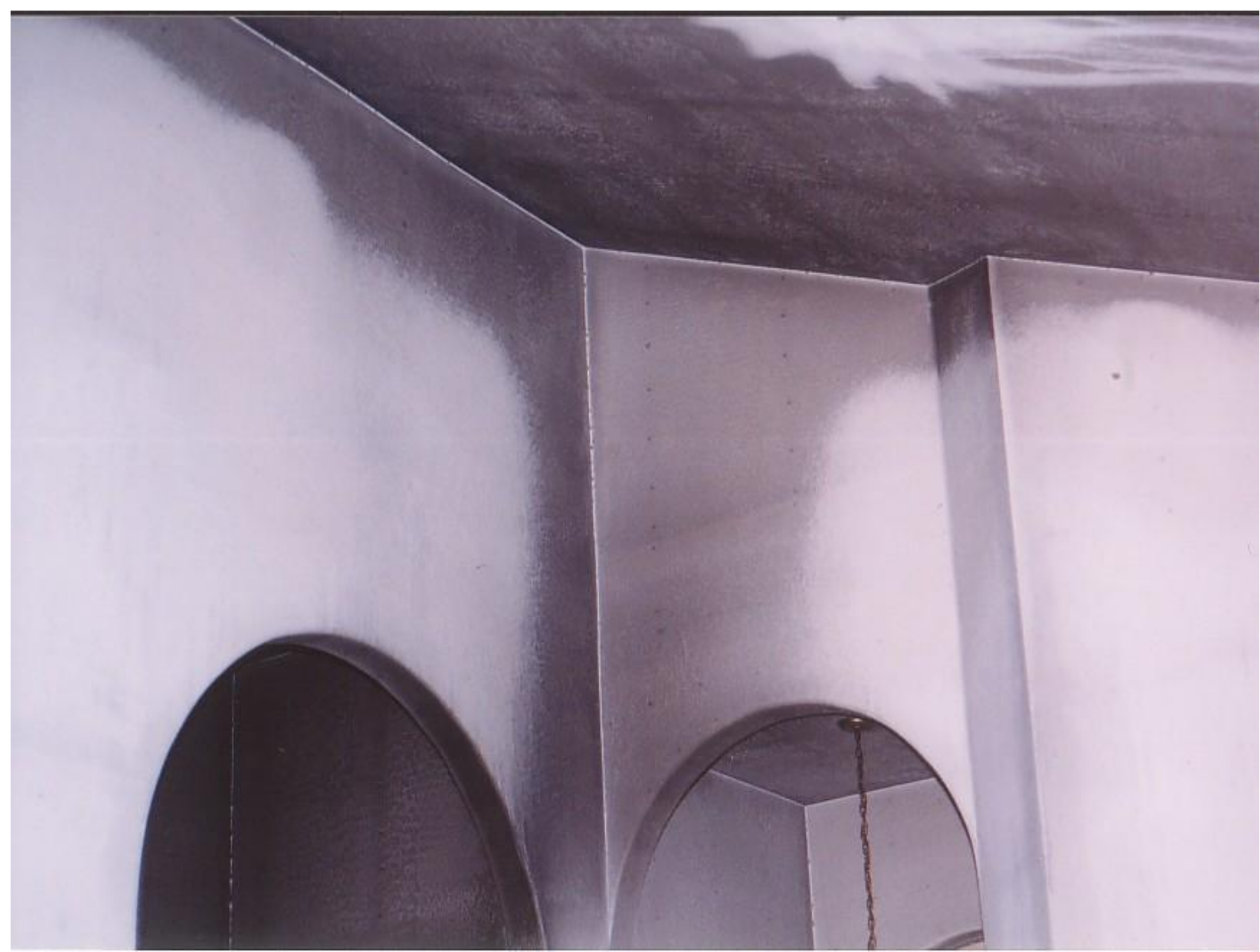
















RURAL/METRO FIRE DEPT.

FIRE
PREVENTION

CITY OF SCOTTSDALE

SOUTH

954-0394

NORTH

860-1225



APPROVED

ADDRESS: 14196 N. 90th PL

COMMENTS: Final Fire Inspection

3-25-91
DATE

M. Girard
INSPECTOR

The Scottsdale Experience

“Scottsdale’s Sprinkler Ordinance is a model of it’s kind and it would be impossible to overstate the credit due the City of Scottsdale for its implementation

There is no question that it will have a major ameliorative effect on fire incidence in the future”



1989 - Independent Fire Panel Report to the COS City Manager

Primary Factors That Contribute to Organizational Success

- **Courage to take risks as we have in the past**
- **Care enough to consider the impact of our actions on future generations**
- **Commitment to maintain economic balance as fundamental to sustained growth**
- **Effectively deal with Involved, Invested & Informed Citizens**



Dick Bowers - Scottsdale City Manager 1991 -2000

Questions?

Michael Young

Deputy Chief of Operations
Plymouth Fire Department
Massachusetts



MYoung@townhall.plymouth.ma.us

(508)830-4213 ext. 108

Jennifer Mieth

Public Information Officer
Department of Fire Services
Massachusetts



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(978)567-3189

Jim Ford

Deputy Chief/ Fire Marshal
City of Scottsdale Fire Department
Arizona



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(480)312-1855

Thank You



U.S. Fire
Administration



FEMA

SAFE
KIDS
WORLDWIDE™

